

REMARKS**Claim Summary**

Claim 1 and 11–13 are amended to correct a typographical error.

No amendment made is related to the statutory requirements of patentability unless expressly stated herein. No amendment is made for the purpose of narrowing the scope of any claim, unless Applicant had argued herein that such amendment is made to distinguish over a particular reference or combination of references. Any remarks made herein with respect to a given claim or amendment is intended only in the context of that specific claim or amendment, and should not be applied to other claims, amendments, or aspects of Applicant's invention.

Objection to the Drawings

In response to the objection to FIG.4, Applicant has submitted new drawings.

In response to the objection of drawings under 37 CFR 1.83(a), Applicants submit that MPEP § 608.02(d) provides: “The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).”

Applicant respectfully submits that although the “claimed features such as signal peak monitor, converters, and digital signal processor in claim 11, storing device as in claim 14, class C configuration modified as in claim 16, and two amplifying devices as in claim 19” are not explicitly shown in the figures, Applicant believes that “signal peak monitor”, “converters”, and “digital signal processor” in claim 11, are conventional features and have been disclosed in the Applicant’s specification using the drawing figure FIG.4. Claim 14 does not include the claimed feature “a storing device” as currently presented. Further, Applicant believes that “class C configuration modified” in claim 16 is a conventional feature and has been disclosed in the Applicant’s specification using the drawing figures FIGs.4 – 8. Applicant also believes that “two

amplifying devices” in the amplifier circuit of claim 19 is a conventional feature and Applicant believes that the detailed illustration is not essential for a proper understanding of the invention.

Applicant submits that FIG. 4 clearly illustrates the components of RF transceivers each including an amplifier circuit embodying the invention. Para 67 of the Applicant’s publication (US 2005/0208911 A1) disclose that “the operator 13 may include the following components: a signal peak monitor which measures the value of the peak envelope of the input signal I being sampled and a processor. The processor may include an A to D (analogue to digital) converter which digitizes the measured values, a digital which applies the transfer function as a mathematical operation, a D to A (digital to analogue) converter which converts the digitally transformed signal back into a voltage waveform suitable for use as the threshold signal T and one or more amplifiers to amplify the signal being processed.” Applicant’s specification, when read in combination with FIG.4, teaches that the operator 13 inherently discloses the “claimed features such as signal peak monitor, converters, and digital signal processor in claim 11. Hence, Applicant submits that the claimed features of “signal peak monitor”, “converters”, and “digital signal processor” in the amplifier circuit as claimed in claim 11, respectively have been illustrated in the drawings in the form of a graphical drawing symbol or a labeled representation of the operator 13 which Applicant believes is sufficient for the understanding of the present invention.

Applicant submits that FIGs. 4 – 8 clearly illustrate the components of RF transceivers each including an amplifier circuit embodying the invention. Para 76 of the Applicant’s publication discloses that “the class C PA is used as the threshold PA 11 in an arrangement shown in FIG.4 and is supplied with a threshold signal T such that the required response curve is linear.” Further, FIG.4 and Para 66 disclose that “[t]he modulated RF signal is applied as an input signal I to a threshold PA (power amplifier) 11”, “a threshold signal T which is also applied as an input to the threshold PA 11”, and that “[a]n amplified output O is produced by the threshold PA 11.” Hence, Applicant’s specification, when read in combination with FIG.4, teaches that the threshold PA 11 inherently discloses the claimed feature such as “class C configuration modified” in claim 16. Hence, Applicant submits that the claimed feature of “class C configuration modified” in the amplifier circuit as claimed in claim 16, has been illustrated in

the drawings in the form of a graphical drawing symbol or a labeled representation of the threshold PA 11 which Applicant believes is sufficient for the understanding of the present invention.

Applicant submits that the claimed feature of “two amplifying devices mutually connected in series or in parallel” in the amplifier circuit of claim 19 is inherently disclosed by the threshold PA 11 described in Applicant’s publication. Hence, Applicant submits that the claimed feature of “two amplifying devices” in the amplifier circuit as claimed in claim 19, has been illustrated in the drawings in the form of a graphical drawing symbol or a labeled representation of the threshold PA 11 which Applicant believes is sufficient for the understanding of the present invention.

Objection to the Specification

In response to the objection, the specification has been amended.

Objection to the Claims

In response to the objection to claims 1 and 11–13 for informalities, Applicant has amended the claims to correct the typographical errors, as requested.

Rejection of Claims 1 – 2, 4 – 10, 18 – 20, 22 and 24 under 35 U.S.C. § 102 (b) as being anticipated by US 3,900,823 (Sokal)

Applicant respectfully traverses the rejection of claims 1–2, 4–10, 18–20, 22 and 24.

MPEP § 2131 provides: “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicant respectfully submits that Sokal does not anticipate, either expressly or inherently, each and every element as set forth in independent claim 1. Specifically, independent claim 1 requires “means for generating and applying to the second input terminal a threshold signal T” and an RF amplifying device “wherein the threshold signal is dynamically varied in a manner adapted to linearise the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input signal I.” Neither of these claimed features is anticipated either expressly or inherently by Sokal.

Sokal is directed to “a power amplifying and signal processing system for modulated carrier signals separately which processes the amplitude component of the system input signal and the component of frequency or phase or both frequency and phase, and later recombines the separately processed components to provide an output signal.” A constant threshold value derived from the input signal and the output signals is compared with the input signal by a comparison means to generate an error signal. Sokal, FIG. 10A – 10F, FIG. 11A, and column 24, lines 27 – 64. The error signal of Sokal is used to generate a pulse width modulated signal which is provided to a power output control 8 to thereby provide a DC bias voltage for an output stage or other stages of the power amplifying system. Sokal, FIG. 10A – 10F, FIG. 11A, and column 20, lines 15 – 32.

Applicant respectfully disagrees with the statement in item 7, page 5, of the Office Action dated December 1, 2006, that Sokal “read as the inherently existing processing unit, which comprises power output control 8 and differential amplifier 4, that generates and applies a signal to power amplifier 1, Figures 1, 11A-11B” describes “means for generating and applying to the second input terminal a threshold signal T.” The cited reference, in contrast, discloses the differential amplifier 4 generating the error/control signal which is subsequently provided to the power output control 8. The power output control 8 is subsequently utilized to generate the pulse width modulated signal for a switching regulator to thereby provide the DC bias voltage to a power supply port of the various stages in the power amplifier 1. Sokal, FIG. 10A – 10F, FIG. 11A, and column 24, lines 27 – 64.

Therefore, Sokal does not disclose “means for generating and applying to the second input terminal a threshold signal T” as required by independent claim 1. In contrast, Sokal, describes a power output control 8 providing the DC bias voltage to control the output signal. Moreover, the DC bias voltage of Sokal is applied to the power supply port of the various stages in the power amplifier 1 and not to “the second input terminal” of the power amplifier. Nowhere does Sokal teach or disclose “generating and applying to the second input terminal a threshold signal T.”

Furthermore, Applicant respectfully disagrees with the statement in item 7, page 6, of the Office Action dated December 1, 2006, that “Sokal read as the cutoff voltage that is controllable by dc bias that is from the inherently existing processing unit and the above power amplifier is a linear amplifier and the relation between the output and input RF amplitudes would be obtained, Figure 1, line 64 of column 24 to line 50 of column 25, lines 3-42 of column 6” describes the RF amplifying device “wherein the threshold signal is dynamically varied in a manner adapted to linearise the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input signal I.” The cited reference, in contrast, discloses the threshold of the comparator being the cutoff voltage (a constant value) for the active devices (the transistor or vacuum tube) comprising such amplifier stage. FIG. 10A – 10F depict waveforms occurring during the generation of the pulse width modulated signal used to drive the circuit for power control means. Specifically, FIG. 10E depicts a signal derived from the RF input signal and the control signal and a constant reference voltage being provided to the comparator. The pulse width modulated signal of FIG.10F is provided to the switching regulator in the power output control 10 of FIG.11A to provide the DC bias voltage to the power supply ports of the power amplifier 1. Sokal, FIG. 10A – 10F, FIG. 11A, and column 20, lines 15–32.

Therefore, Sokal does not disclose the RF amplifying device “wherein the threshold signal is dynamically varied in a manner adapted to linearise the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input signal I.” In contrast, Sokal, describes the constant cutoff voltage being compared to the signal derived from the RF input signal and the control signal to thereby provide a DC bias voltage for the power supply port of various stages in the power amplifier. Nowhere does Sokal teach or disclose that

“the threshold signal is dynamically varied in a manner adapted to linearise the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input signal I.”

In view of the foregoing, Applicant respectfully submits that Sokal does not disclose “means for generating and applying to the second input terminal a threshold signal T” or the RF amplifying device “wherein the threshold signal is dynamically varied in a manner adapted to linearise the relationship in at least part of its range between the amplitude of the output signal O and the amplitude of the input signal I.” Applicant therefore submits that claim 1 is not anticipated by Sokal, and therefore that the rejection of claim 1 under 35 USC 102(b) is improper and should be withdrawn. Applicant requests that claim 1 may now be passed to allowance.

Dependent claim(s) 2, 4–10, 18–20, 22 and 24 depend from, and include all the limitations of independent claim 1, which claim(s) is/are shown to be allowable for the reasons given above. Therefore, Applicant respectfully submit that dependent claims 2, 4–10, 18–20, 22 and 24 are in proper condition for allowance and request that claims 2, 4–10, 18–20, 22 and 24 may now be passed to allowance.

Rejection of Claims 3 and 15–17 under 35 U.S.C. § 103 (a) as being unpatentable over US 3,900,823 (Sokal)

In addition to the arguments made above, claims 3, and 15–17 are dependent claims providing further limitations to what s believed to be an allowable independent claim 1. As such, Applicant requests that claims 3, and 15–17 now be passed to allowance.

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Such action is earnestly solicited by the Applicant. Should the Examiner have any questions, comments, or suggestions, the Examiner is invited to contact the Applicant’s attorney or agent at the telephone number indicated below.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

April 30, 2007

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